FIVE YEAR REVIEW REPORT (TYPE 1)

ROCHESTER PROPERTY SITE

TRAVELER'S REST, SOUTH CAROLINA

EPA ID # SCD980840698

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PREPARED BY

U. S. ENVIRONMENTAL PROTECTION AGENCY

WASTE MANAGEMENT DIVISION

REGION 4

1.0 INTRODUCTION

EPA Region IV conducted this Five-Year review of the Rochester Property Site pursuant to CERCLA Section 121(c), NCP Section 300.400(f)(4)(ii), and OSWER Directives 9355.7-02 (dated May 23, 1991), and 9355.7-02A (dated July 26, 1994). This review is required by policy and is the first five-year review since there is on-going long term remedial action for groundwater at this site. The purpose of a five-year review is to ensure that a remedial action remains protective of human health and the environment and is functioning as designed. This document will become a part of the Site file.

1.1 Site Location and Description

The Rochester Property Site is located in Greenville County, South Carolina, west of the town of Travelers Rest. The site lies approximately 300 feet north of County Road 268, also known as Ledbetter Road, on property currently owned by Carolina Properties, Inc. The property, owned by the RP, consists of approximately 4.5 acres. The northern portion of the property is a pine and deciduous forest, while the southern portion was formerly a field which has been planted with pine trees. A fence surrounds a 0.6-acre area where waste was removed from the southern portion of the site in 1990. The site is located in a rural residential area, with the nearest residents adjacent to the property.

1.2 Site Characteristics

Residual soil at the Site is absent or occurs as a thin layer overlying saprolite. The saprolite is relatively thin across the Site, approximately 10 - 15 feet thick. The saprolite consists predominantly of a silt with varying amounts of fine to coarse sands and clays. Underlying the saprolite is bedrock which consists primarily of a gneiss.

All groundwater in South Carolina is classified as Class GB Waters (South Carolina Regulation 61-68). This classification means that all groundwater meeting the definition of underground sources of drinking water (USDW) must meet quality standards set forth in the State Primary Drinking Water Regulations (R.61-58.5). An USDW is defined as an aquifer or portion of an aquifer which supplies or contains a sufficient quantity of water to supply a public supply system.

1.3 Site History

The Rochester Property Site was used for disposal of wastes which were thought to include wood glue, print binders, powder materials, natural guar gums, adhesive for food packages, and adhesive restick for envelopes. The waste materials were placed in four trenches sometime between late 1971 and early 1972. Each of the trenches was approximately 40 feet long, 3 feet wide, and 10 feet deep. The South Carolina Department of Health Environmental Control (SC DHEC) conducted a site inspection on November 8, 1984. As part of the inspection, SC DHEC sampled the waste, soils, surface water, and ground water in the area. Based on the analysis of the waste, US EPA ranked the site and included it on the National Priorities List Proposed

Update in the Federal Register, Vol. 51, No. 111, dated, June 10, 1986. The Site was included on the National Priorities List on October 4, 1989. A removal was conducted in 1990, which effectively removed the source.

An administrative Order on Consent was signed by the RP in February 1992 to perform the Remedial Investigation/Feasibility Study (RI/FS), which was conducted between 1992 to 1993. On August 31, 1993 EPA signed the Record of Decision (ROD), which listed only one operable unit.

The ROD for the Rochester Property Site stated that the Contaminants of Concern (COCs) and their remediation goals were: Trichloroethene (TCE) (5 ppb), Manganese (180 ppb), and bis(2-ethylhexyl) phthalate (6 ppb) and presented the following selected remedy to address the contamination:

GROUNDWATER (In-Situ Air Sparging)

* In-situ air sparging - the pumping of air into horizontal trenches (or wells) in the saturated zone.

* The rising bubbles cause the TCE to volatilize.

* The addition of air promotes the biodegradation of bis(2-ethylhexyl)phthalate.

* Oxidation of soluble manganese to its more insoluble form, which will precipitate and be redeposited in the soils, where it is already naturally occurring.

* The vapors travel through the gravel and exit through vent pipes (in the case of trenches).

* Continued analytical monitoring of groundwater and surface water.

2.0 DISCUSSION OF REMEDIAL OBJECTIVES

The remedial action objectives, as defined in the ROD, include the following: (1) eliminate or minimize the threat posed to public health and the environment from potential future exposure to hazardous substances in the groundwater; and (2) restore contaminated groundwater to levels protective of human health and the environment.

2.1 ARAR Review

A review of current Federal and South Carolina drinking water regulations reveals the remedial goals for the contaminants of concern for groundwater, established in the ROD, are the same as the current drinking water standards.

2.2 Remedy Implementation

In May 1994, an Unilateral Administrative Order (UAO) was issued, which required the RP to preform the remedial design/remedial action (RD/RA). The RP has complied with the Order and performed all work required to date. In addition, the UAO that was issued to the RP requires that a deed restriction be put in place to prevent the installation of a private well. The RP met this requirement. All work including RD, RA , and Operation and Maintenance activities have been conducted in conformance with the ROD. In October 1994, EPA approved the remedial design and other remedial design/remedial action deliverables for the cleanup of the Rochester Property Site. The work included the excavation of two trenches, approximately 30 feet deep (below the contaminated groundwater). One trench was located in the heart of the plume, and the other was placed downgradient of groundwater contamination, for the purpose of preventing contaminated groundwater from migrating off-site.

Onsite construction of the groundwater remediation system began on November 15, 1994. Construction was completed by June 29, 1995. Representatives of EPA, the South Carolina Department of Health and Environmental Control (SCDHEC), and the RP's consultant, conducted a Final Inspection of this remedial action on June 29, 1995. EPA determined during the inspection that the RP's contractor, RMT, Inc., has constructed the remedy in accordance with the approved remedial design plans and specifications. RMT submitted a Final Construction Report on August 10, 1995 and the Remedial Action Report was submitted on September 18, 1995. The RA Report properly documented successful completion of RA construction activities and was approved by EPA on September 29, 1995.

All performance verification data collected to date, including oversight of construction activities by EPA and SCDHEC, as well as annual groundwater samples from the monitoring wells and annual air samples from the passive vent system (which are included in monthly reports as well as the Annual Report), indicate that remedy components have been constructed and continue to operate in accordance with the specifications developed in the RD and RA phases.

2.3 Operation & Maintenance

The groundwater is in the process of being remediated since several contaminants are still present above their remedial goals as stated in the ROD. After approximately three years, the monitoring wells that had the highest contamination during the RI, did not show any contamination. These wells have remained below RGs since that time. However, MW-7A, which is located in an area past the most downgradient trench, began to show TCE contamination approximately 2 years ago, at higher levels than was found in any of the wells during the RI (about 1 ppm). Again the monitoring wells (both shallow and deep) located adjacent to and within 70 feet of MW-7A, do not show any TCE contamination. In addition surface water samples no longer show TCE contamination, including the one closest to MW-7A (about 70 feet downgradient). EPA, SCDHEC, and the RP are planning on addressing this new area of contamination with air-sparging wells. Site inspections are conducted at least annually and discussions have also been held with the nearby residents, as well as the mailing out of fact sheets to the nearby residents.

3.0 RECOMMENDATIONS

In order to better determine the best locations of the new air-sparging wells, to be installed to address the new area of contamination, it is recommended that additional groundwater sampling be performed, in addition to the annual groundwater sampling. This additional sampling will be performed in 2000 by the responsible party, with EPA oversight. After this sampling, the location of the air-sparging wells to address the contamination will be discussed between EPA, SCDHEC, and the RP.

4.0 STATEMENT OF PROTECTIVENESS

As discussed above, the Remedial Action at the Rochester Property Site as prescribed in the ROD for groundwater is currently underway. No contamination has been detected in the nearby surface water for several years. Also, there is no current resident onsite and the nearest private well is upgradient. The closest downgradient resident has been placed on public water supply (though no contamination has ever been detected in the well). The only exposure pathway is a potential future exposure pathway. Someone would have to purchase the property (currently owned by the RP), build a home, and install a private well for drinking. Since the RP is unlikely to sell the property, and since there is a deed restriction preventing the installation of a private well on the property, there is no current exposure pathway. Therefore, the remedy is currently protective of human health and the environment. The purpose of the Remedial Action is to protect a potential future resident should they install a private well. As described above, additional sparging wells shall be installed to address the new small area of contamination to ensure the continued protectiveness of human health and the environment.

5.0 NEXT FIVE-YEAR REVIEW

Since ongoing remedial action has not achieved the cleanup standards set forth in the ROD for all the groundwater, EPA guidance mandates that another five-year review will be conducted to evaluate the Site's status. Therefore, it will be necessary to re-evaluate the effectiveness of the remedy by February 2005, and should include additional groundwater sampling.

for R. M. Green

for Richard D. Green, Director
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2/23/00
Date